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Competitor identification, perceived environmental uncertainty, and firm performance

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Abstract

To create a competitive advantage and generate superior performance, firms must first identify rivals. However, there is little understanding of how perceived environmental uncertainty affects competitor identification, why some firms are better at identifying domestic versus foreign rivals, or how competitor identification is related to firm performance. In this paper, we theorize that perceived environmental uncertainty is an important antecedent of competitor identification; it influences how many competitors a firm identifies. Our theory also suggests that different firm characteristics influence domestic/foreign competitor identification and that there is an inverted-U shaped relationship between under/over-identification of competitors and firm performance. Based on a large sample of Taiwanese firms, we find support for each of these ideas. Our study helps reinforce the importance of competitor identification for firm success.

Keywords: competitor identification, firm performance, perceived environmental uncertainty, domestic and foreign rivals

Résumé

Mots-clés

To be successful in the marketplace and achieve superior performance, firms require an effective competitive strategy designed to attain a competitive advantage (Porter, 1980). Since robust competitive strategies are created based on the actual and anticipated actions of rivals (Dutta & King, 1980; Porter, 1980), it is critically important that managers be aware of competitors (Bergen & Peteraf, 2002; Chen, Su, & Tsai, 2007; Yu & Cannella, 2007). Not surprisingly, competitor identification has received considerable attention from strategic management and marketing scholars (e.g., Clark & Montgomery, 1999; Day & Schoemaker, 2005; Peteraf & Bergen, 2003).

Competitor identification research primarily addresses how managers detect with which companies their firm competes (Clark & Montgomery, 1999; Porac & Thomas, 1990). This body of research notes that competitor identification is important for competitive strategy (Porac & Thomas, 1990; Porter, 1980) and competitive advantage (Bergen & Peteraf, 2002). Scholars have found that factors such as firm size (George, 2005), geographic scope (Beck, Demirguc-Kunt, & Maksimovic, 2005), and managerial time-horizons (McMullen, Shepherd, & Patzelt, 2009) are related to the level of competitor identification.

Despite this research, it is widely recognized that our knowledge of competitor identification is still incomplete (Clark, 2011; Peteraf & Bergen, 2003; Yu, Wang, & Brouthers, 2015). For example, we know very little about how managerial perceptions of the external environment influence competitor identification. Environmental uncertainty refers to the degree to which managers perceive it difficult to accurately anticipate the future state of the external environment (Milliken, 1987; Priem, Rasheed, & Kotulic, 1995). Managerial perceptions of the lack of certainty in the environment can make the task of competitor identification more difficult,

time consuming, and expensive. Furthermore, although Yu et al. (2014) found that firms who identify both more domestic and foreign rivals achieve superior performance, it is unclear why firms might be good at identifying domestic or foreign rivals but not both.

In this paper, we extend competitor identification research in several important ways. First, we develop and test theory suggesting that when managerial perceptions of environmental uncertainty are high, firms tend to restrict competitor identification. This occurs because high uncertainty creates a situation where managers believe data are not easily available, cause-effect relationships are ambiguous (Milliken, 1987), and firms tend to retrench, cutting costs—especially environmental scanning costs—in an effort to minimize waste (Boyd & Fulk, 1996; Fredrickson & Mitchell, 1984). Managers perceiving high environmental uncertainty, therefore, tend to focus identification efforts on a relatively narrow number of existing rivals.

Second, building on the notion that free-trade and globalization are increasing competitive rivalry (Wiersema & Bowen, 2008) as well as research that has indicated the importance of identifying both domestic and foreign rivals (Yu et al., 2015), we investigate the idea that different firm characteristics drive domestic and foreign competitor identification. Our theory suggests that firms with greater product and geographic diversity will identify more domestic competitors because they are involved in a greater number of product/markets and, as such, interact on a daily basis with more rivals (Barkema & Vermeulen, 1998). We also theorize that firms with greater product and geographic diversity as well as international experience will identify more foreign competitors because they have a greater understanding of foreign markets, are more frequently exposed to foreign rivals, and will have developed processes and systems for foreign competitor identification (Eriksson, Johanson, Majkgard, & Sharma, 1997; Knight, 2000).

Third, we theorize that there is an inverted-U shaped relationship between under or over-identification of competitors and firm performance. We develop and test the notion that under-identifying competitors can lead to lower performance because of the creation of competitive blind spots where rivals can enter a market and appropriate a firm's advantage (Zajac & Bazerman, 1991). Our theory also suggests that although firms over-identifying competitors can discover unique opportunities, processes, and innovations that should lead to improved competitive advantage (Day & Schoemaker, 2005) and better firm performance, there is a limit as to how beneficial this can be; at some point the costs of over-identification outweigh the benefits.

Hence, our research contributes to the literature on the antecedents of competitor identification (Clark & Montgomery, 1999; McMullen et al., 2009) in several important ways. By investigating an important new factor—the perceived level of uncertainty in the external environment—we extend research taking into account environmental influences on managerial willingness/ability to identify rivals. Past studies of environmental scanning and the strategic decision-making process have found that in uncertain external environments, firms tend to reduce scanning operations (Dean & Sharfman, 1993; Fredrickson & Mitchell, 1984). Building on these ideas, we contribute by investigating the notion that perceptions about the (un)certainty of the external environment play an important role in the competitor identification effort of firms.

We aim to improve our understanding of why some firms are better at identifying domestic competitors, others at identifying foreign competitors, and some excelling at both. While Yu et al. (2015) found that firms that identify more domestic and foreign competitors have better performance than those identifying only more domestic or foreign rivals, they did not investigate why firms identify more/less domestic and foreign competitors. Our research begins

to explore why this might be the case. We make a contribution by examining firm and managerial characteristics and how these factors have an impact on the identification of domestic and foreign rivals.

Finally, we link the identification of competitors to firm performance. Several studies have looked at the association between competitor identification and firm performance, providing mixed results. Clark and Montgomery (1996) and Yu et al. (2015), for example, found that firms identifying more competitors or over-identifying competitor actions have higher performance. However, studies by Clark (2011) and Tsai, Su, and Chen (2011) found that the accuracy of rival identification is related to better performance. We try to explain these mixed results by exploring an inverted-U shaped association between under/over-identification of competitors and firm performance. In these ways our study highlights the importance of competitor identification for firm success.

Theory and Hypotheses

Research focusing on competitor identification tends to categorize competitors from either a supply-side or demand-side perspective. The supply-side perspective classifies firms as competitors according to their characteristics (Clark & Montgomery, 1999; Porac & Thomas, 1990). A large number of studies have discussed this practice and concluded that firms would be defined as rivals if they share similar attributes (e.g., firm size), resources, and capabilities as well as provide similar offerings with the focal firm (Peteraf & Bergen, 2003). The demand-side perspective view competitors as firms that provide consumers with similar benefits and fulfill similar needs (Clark & Montgomery, 1999; Peteraf & Bergen, 2003). More specifically, in a

given purchase decision, firms whose products consumers perceive as similar or substitutable in the same market segment are viewed as rivals (Peteraf & Bergen, 2003).

Building on this research, scholars have noted a number of antecedents to competitor identification. For example, research has found that larger firms identify more competitors than smaller firms (George, 2005), possibly because larger firms have more resources that can be committed to this task. In contrast, older firms tend to identify fewer competitors (George, 2005) in part because of the inertia that stops these firms from expanding or changing competitor identification processes. Results from a study by Beck and colleagues (Beck et al., 2005) indicate that more internationally active firms tend to identify fewer competitors while George (2005) found that firms possessing greater organizational slack identify more rivals. Finally, research suggests that managerial time-horizons will impact the number of competitors identified (McMullen et al., 2009); managers with a short-term outlook will identify fewer rivals compared to those taking a long-term perspective.

Although these studies have determined the factors influencing competitor identification, researchers have not explored how perceptions of the external environment can impact competitor identification. Nor have previous studies looked at why competitor identification varies between domestic and foreign rivals. We next develop and test a theory that addresses these issues.

Environmental Uncertainty and Competitor Identification

Environmental uncertainty is created by the perceived variability and complexity of external factors (Boyd & Fulk, 1996). Variability refers to the rate of change in factors such as customers, suppliers, and competitors (Daft, Sormunen, & Parks, 1988; Priem et al., 1995). This

affects the accuracy and quality of information available to decision-makers (Daft et al., 1988). Complexity involves the ability to understand cause and effect relationships and therefore the ability to predict how changes in the environment, actions of competitors, or firm decisions will impact the firm (Dean & Sharfman, 1993; Milliken, 1987). Research suggests that when perceptions of environmental uncertainty are high, managers believe that external activities and events shift rapidly, making it difficult to gain an accurate picture of what the market looks like and where it is going. If managers are uncertain about the state of the environment, it will be extremely tricky to identify threats and opportunities with any degree of confidence (Milliken, 1987). As a result, in an uncertain environment, managers think that "comprehensive decision-making is doomed to failure because the data are not available, environmental relationships are difficult to understand, and the future is unpredictable" (Priem et al., 1995, p. 914).

Put simply, perceived environmental uncertainty can impact the level of scanning, analysis, and planning a firm undertakes (Boyd & Fulk, 1996; Fredrickson & Mitchell, 1984). While studies such as Daft et al. (1988) and Sawyerr (1993) suggest that environmental uncertainty leads to increased scanning, we build on research that suggests that when firms perceive the external environment to be more uncertain they reduce the level of scanning (Dean & Sharfman, 1993; Priem et al., 1995). This occurs for several reasons. First, firms perceiving greater uncertainty do not think that the investment in scanning provides value (Lisboa, Skarmeas, & Lages, 2011; Montgomery, Moore, & Urbany, 2005). Second, consistent with work on the speed of strategic decision-making (Baum & Wally, 2003), in uncertain environments, firms refrain from time-consuming research (scanning) activities because such delays can generate missed opportunities and lagged responses. Third, when uncertainty is high, cause and

effect relationships are difficult to understand reducing the likelihood that scanning will provide useful outcomes, thus discouraging scanning (Dean & Sharfman, 1993).

We suggest that perceptions of environmental uncertainty also have important implications for competitor identification. Competitor identification involves extensive information search and processing demands and entails extensive analytical skill (Clark & Montgomery, 1999; Porac & Thomas, 1990). Competitor identification is time consuming and expensive requiring the commitment of a sizeable amount of firm resources (Montgomery et al., 2005; Porac & Thomas, 1990). We theorize that perceived environmental uncertainty will impact a firm's willingness and ability to identify competitors in several important ways. First, much of the competitor identification literature assumes that firms can easily identify competitors, regardless of their size or location. Yet, the few studies that look at this issue note significant restrictions in managerial abilities or willingness to identify rivals (Clark & Montgomery, 1999; Porac & Thomas, 1990). We maintain that because competitor information such as future strategies, products, and markets is private, the increased uncertainty in the environment makes it difficult to obtain. Uncertainty generates environmental noise that can hide signals about competitors or distort information that in turn restricts managerial ability to identify rivals and their actions (Clark & Montgomery, 1996).

Second, perceived uncertainty in the external environment impacts managerial attitudes towards identifying competitors since in these situations external events and trends cannot be predicted (Milliken, 1987). Managers think that regardless of the amount of time, money, and effort put forth, changes in the external environment make it difficult or impossible to determine what consumers will demand, what competitors will do, and where future competition might originate. Since cause-effect relations are unclear, it is difficult for managers to determine which

firms they may be competing with in the future. Hence, when managers perceive high environmental uncertainty, they tend to reduce external scanning (Fredrickson & Mitchell, 1984), minimize resource commitments to this effort, and instead focus on their known and relatively few competitors

Third, perceived environmental uncertainty means that managers think the quality of information available to them will be low, impeding their ability to forecast consumer buying activities and actions of potential competitors (Bergh, 1998). With lower quality information it will be more difficult for managers to identify future competitors and predict the actions of current competitors. Poor quality information also makes it difficult to determine what consumers will do and how they will react to new or innovative strategies. In such a situation, managers are unable to identify future competitors because of the poor quality of information available to the firm and the unpredictability of consumer actions. Managers holding these perceptions about the external environment will tend to concentrate on identifying only a few current competitors in an attempt to gain a clearer picture about the market and how to maintain the firm's current competitive position.

Fourth, perceived environmental uncertainty also impacts the willingness of managers to undertake competitor identification because of the timeliness of decision-making (Priem et al., 1995). In fast-moving, uncertain environments, managers do not have time to gather and process a large volume of external information (Baum & Wally, 2003). Decisions must be made quickly before the market changes and shifting technology, customer demand, competitor strategies, or government actions adversely affect firm operations (Baum & Wally, 2003; Dean & Sharfman, 1993). Because scanning the environment for competitors, especially future competitors, takes time, firms that perceive environmental uncertainty to be high will tend to forgo this task,

focusing instead on a relatively small number of known competitors.

Fifth, perceived environmental uncertainty affects the willingness of managers to identify competitors because of the costs involved. The management of a firm's activities becomes more costly when environmental uncertainty increases (Dean & Sharfman, 1993). Research indicates that environmental uncertainty increases the information-processing requirements of organizations (Bergh, 1998) as well as the monitoring costs owing to the range of options available to managers (Boyd & Fulk, 1996). Given these higher costs, when managers perceive the environment to be uncertain, they will be more reluctant to commit firm resources to scanning the external environment (Montgomery et al., 2005) and to searching out information on distant or future competitors. Based on these arguments, we suggest that:

H1: When perceived environmental uncertainty is high, managers identify fewer competitors than when perceived environmental uncertainty is low.

Domestic versus Foreign Competitor Identification

Past competitor identification research and our theory leading to *H1* suggests that firms with certain attributes will identify more/less competitors no matter where those competitors are located. These studies do not differentiate between domestic and foreign competitor identification. The globalization of markets, however, means that current and potential competitors can come from both the domestic market as well as from foreign countries (Thomas, Pollock, & Gorman, 1999; Wiersema & Bowen, 2008). Recently, Yu et al. (2015) found that firms could generate good performance if they identify more domestic competitors or more foreign competitors but that superior performance can only be achieved by identifying more domestic as well as foreign rivals. Yet that study also showed that firms strong in identifying

domestic competitors were not necessarily strong in identifying foreign rivals (Yu et al., 2015). This suggests that researchers cannot assume competitor identification is universal and instead should explore the issue of why firms vary in domestic and foreign competitor identification. Here we develop theory to explain why some firms will be better at identifying domestic competitors while others excel at foreign competitor identification.

Historically, research looking at competitor identification has concentrated on identifying domestic rivals (Clark & Montgomery, 1999; Peteraf & Bergen, 2003). These studies have noted that firms tend to identify rivals that they confront on a daily basis because these firms are more salient and affect firm operations directly (Peteraf & Bergen, 2003; Thomas et al., 1999). We suggest that two firm-specific factors will lead to greater domestic competitor identification while three firm-specific factors lead to greater foreign competitor identification. When firms offer a diverse range of products they will encounter a greater number of domestic competitors compared to firms that focus on a single product (Barkema & Vermeulen, 1998). A firm offering multiple products will have to develop a sustainable competitive advantage in each, or exit the product. Since development and maintenance of an advantage requires the identification of rivals (Porter, 1980; Yu et al., 2015), firms offering more products will need to identify more rivals. Even in the case of few domestic rivals to any one product or where some rivals operate in the same products, firms that offer a more diverse product range will be exposed to more competitors that will lead to the identification of more domestic rivals.

Yet, these different product/market rivals may not all be based in the domestic market. We theorize that product diversity will also lead to greater foreign competitor identification. A firm offering a more diverse product range exposes itself to more rivals. As the firm diversifies, its product range it will encounter more competition, and in some situations these competitors

will be foreign rivals. Furthermore, when firms expand to foreign markets in more product ranges they are also exposed to more foreign competitors. Thus, firms with greater product diversity will identify more foreign rivals compared with firms having fewer product ranges. Based on these arguments we suggest that:

H2a: Firms with higher product diversity will identify more domestic and foreign competitors.

Similar arguments can be made about geographic diversity. As firms diversify to more markets, they will encounter more competition (Barkema & Vermeulen, 1998; Yu et al., 2015). While many of these competitors may be new and not active in the focal firm's domestic market, in some situations, firms encounter domestic rivals in foreign markets. Research on multimarket contact (competition) suggests that firms need to be aware of and monitor those domestic rivals that they encounter in other locations in order to develop "mutual forbearance" (Jayachandran, Gimeno, & Varadarajan, 1999; Yu & Cannella, 2007). If a firm fails to identify a domestic rival they face in other markets, that rival can attack the firm in the domestic or other market and negatively influence the operations of the firm (Jayachandran et al., 1999; Yu & Cannella, 2007). Therefore, firms that are more geographically diverse will identify more domestic competitors in order to avoid the potential negative outcomes of multimarket competition.

We suggest that geographic diversity is also related to foreign competitor identification. To develop an advantage in a foreign market, the firm must understand those foreign rivals and adjust strategy accordingly (Knight, 2000). Being present in more markets exposes the firm to more foreign rivals (Barkema & Vermeulen, 1998; Knight, 2000; Yu et al., 2015). In this situation, firms will identify more foreign competitors in order to develop and sustain an advantage in each foreign market. Having a presence in foreign countries also makes

identification of foreign rivals easier. Subsidiary managers will encounter these rivals on a daily basis; these foreign rivals become the domestic competitors for the foreign subsidiary. The competitor information generated in the subsidiary can be supplied to the parent firm, increasing its knowledge of foreign competition. As a result, we theorize that more geographically diverse firms will identify more foreign competitors. Overall, these arguments suggest that:

H2b: Firms with higher geographic diversity will identify more domestic and foreign competitors.

Finally, we suggest that international experience will also influence the number of foreign rivals a firm identifies. Being new to foreign markets means that firms have not been exposed to foreign rivals for long and hence will not yet understand who these rivals are and which firms are important (Eriksson et al., 1997; Zahra, 2005). As such, firms with little international experience will not have developed an understanding of where foreign competition might originate or have developed processes for identifying foreign rivals. In contrast, firms with greater international experience will understand the importance of foreign competitors and know more about them and the potential impact they may have (Eriksson et al., 1997; Zahra, 2005). These more internationally experienced firms will also have developed processes and systems to allow for identification of more foreign competitors. Firms with greater international experience will identify more foreign rivals. We therefore suggest that:

H2c: Firms with higher international experience will identify more foreign competitors.

Competitor Identification and Performance

Strategy scholars suggest that understanding competitors helps an organization develop a long-term advantage (e.g., Bergen & Peteraf, 2002) and that such competitive advantage can

boost firm performance (Porter, 1980). The actions that competitors undertake can jeopardize a focal firm's ability to create and sustain a competitive advantage, influencing firm performance (Chen, 1996). Research demonstrates that understanding with whom a focal company competes plays a crucial role in the strategic development process (Porac & Thomas, 1990; Porter, 1980). A lack of competitor identification is likely to lead to the creation of competitive blind spots, enabling a focal firm's competitors to enter a market and appropriate its original market position (Zajac & Bazerman, 1991). As a consequence, the focal firm may suffer a loss of sales and/or profits (Chen, 1996). Hence, to be successful, firms need to identify actual and potential competitors and consider these rivals' actions and reactions in order to develop effective strategies to attract and retain customers (Chen et al., 2007; Yu & Cannella, 2007).

We suggest that firms under-identifying rivals have a greater chance of creating competitor blind spots (Zajac & Bazerman, 1991). Such blind spots mean that firms will not be aware of certain rivals and cannot identify the competitive threat such rivals can create (Chen et al., 2007). The result of this inattention or lack of awareness is that the focal firm will perform poorly because it fails to anticipate rivals' moves and create competitive strategies that generate an advantage (Chen et al., 2007; Zajac & Bazerman, 1991). Hence, firms under-identifying competitors will have poorer performance because the failure to identify rivals means that the focal firm cannot develop effective strategies or take actions in the marketplace to protect its competitive position from unseen attack.

In contrast, we theorize that firms over-identifying competitors will generate opportunities to enhance their competitive advantage by accessing unique knowledge that can improve product innovation, processes, or product quality (Day & Schoemaker, 2005; Clark & Montgomery, 1996). These factors lead to higher performance because firms obtaining such

knowledge can develop better advantages and adjust strategies and formulate tactics to widen the appeal of its products/services. Firms over-identifying rivals will also be in a position to develop more effective responses to competitive actions (Chen, 1996; Yu & Cannella, 2007), which should result in better firm performance. Because of these competitor dynamics, scholars have suggested that firms having greater awareness of competitors tend to generate greater performance (Chen et al., 2007).

Yet the identification of competitors comes at a cost. Firms need to search extensively for competitors, especially those on the periphery (Day & Schoemaker, 2005). As firms identify more and more competitors, it becomes harder, more time consuming, and expensive to identify additional rivals (Montgomery et al., 2005; Porac & Thomas, 1990). Furthermore, the marginal benefits of identifying new competitors tends to decrease; the added value derived from identifying new rivals declines as firms are unable to absorb and use all the new processes and technologies they learn about (Wadhwa & Kotha, 2006); and often new rivals do not possess any new technologies or processes and thus provide little new value to the firm (Day & Schoemaker, 2005). As over-identification accelerates, the costs of such actions exceed the benefits derived and hence firms generate lower performance. We therefore suggest:

H3: There will be an inverted-U shaped relation between under/over-identification of competitors and firm performance.

Method

To test our hypotheses, we gathered data from Taiwanese sporting goods manufacturing firms via a nationwide mail survey undertaken between October 2009 and April 2010. Taiwan is

one of the principal sporting goods supplier countries in the world, ranking 11th in the global market for sporting goods (Andreff & Szymański, 2006) and growing by an estimated 5% annually in export value (Hsu, 2007). In total, Taiwan's sporting goods manufacturers export more than 10 billion USD annually (Huang, 2010). Manufacturers of sporting goods in Taiwan work in a highly competitive market and offer a rich diversity of financial outcomes. These conditions provide a unique opportunity for testing our hypotheses on competitor identification. Further, restricting our study to a single industry and a single country diminishes potential industry and national cultural affects.

We worked with the Taiwanese Sporting Manufacturing Association (TSMA), which has a membership of 357 firms. Our questionnaires were sent to all the firms on the TSMA list. Surveys were addressed to the CEO of each firm. Research suggests that CEOs are the most influential individual involved in the firm's strategic decision-making. CEOs have intimate knowledge about the business environment in the industry and the issues of strategic importance to the firm (Kumar, Stern, & Anderson, 1993). Further, research suggests that senior managers do most of the external environmental scanning in firms (Boyd & Fulk, 1996). Earlier work shows that targeting single survey participants, especially CEOs, offer accurate estimates of constructs being studied (Kumar et al., 1993). Given the nature of our survey, the CEO appears to be the most competent person to fill out the questionnaire.[i]

The survey instruments were initially designed in English and then translated into Chinese. We carried out a repeated process of translation and back-translation with MBA graduates working in the Taiwanese sporting goods industry until the meaning of the questions in Chinese were the same as the meaning in English. Chinese-language surveys were pilot-tested with CEOs in 10 Taiwan's sporting goods companies not included in the final survey sample.

Dependent Variables

We have four dependent variables in this study. Our first set of dependent variables focus on *competitors identified.* The literature has noted several ways to capture this variable. Some studies rely on SIC code similarities and assume that the focal firm can identify all firms with similar codes (Ferrier, 2001). Other research identifies competitors as those with similar strategies, technology, or product offerings (Porac & Thomas, 1990). Finally, several studies simply ask CEOs to disclose the number of firms with whom they compete (Clark & Montgomery, 1999; Yu et al., 2015). We employed this last method in our study. Respondents were asked a number of questions about competitors including the total number of domestic competitors, total number of foreign competitors, number of new competitors, and number of competitor exits. To test *H*1 we measured all competitors identified by combining the number of domestic and foreign competitors each CEO reported. To test *H*2a, 2b, and 2c, our dependent variables were number of domestic competitors identified and number of foreign competitors identified.

Our fourth dependent variable was firm performance. A perceptual measure of performance was used because most of the firms surveyed were privately owned and not listed on the stock exchange, and thus their financial reports are not readily available. Further, executives of private firms are more willing to offer perceptual measures rather than more confidential financial results. Previous research indicates that subjective ratings of firm performance tend to be highly correlated with objective indicators (Miller, Droge, & Vickery, 1997). Consistent with the work of Powell and Dent-Micallef (1997), our measure of *firm performance* used 5-point Likert scales to capture CEO perceptions of overall firm performance

and sales growth over the last three years, as well as CEO perceptions of firm performance relative to competitors in terms of profitability, sales growth, and overall financial performance. Factor analysis confirmed that all five items loaded on one factor (Cronbach alpha=0.94). A composite index was created by standardizing each of these five items, adding them together, and then dividing by five.

Independent Variables

In our analysis of competitor identification antecedents, our independent variable was perceived environmental uncertainty. We captured perceived environmental uncertainty through a multi-item perceptual scale. Research suggests that the external environment can be measured either at a perceptual or objective level, but that perceptual measures allow researchers to understand the environment from the perspective of the manager (Boyd & Fulk, 1996). We used a perceptual measure of environmental uncertainty developed by Shervani, Frazier, and Challagalla (2007), which is similar to other measures (Boyd & Fulk, 1996; Priem et al., 1995). Respondents were asked to report the extent to which the external environment is characterized by (a) difficult-to-monitor trends, (b) unpredictable sales forecasts, (c) shifting competition, and (d) market uncertainty. Factor analysis confirmed that all four questions loaded on a single factor (Cronbach alpha=0.93).

In our analyses of domestic versus foreign competitor identification our independent variables were geographic diversity, product diversity, and international experience. To measure geographic diversity, we asked respondents to disclose the number of foreign countries in which the firm had subsidiaries (Barkema & Vermeulen, 1998). There are several methods for capturing product diversity. Often researchers look at the industries in which the firm participates

(Barkema & Vermeulen, 1998). However, measures like these miss the diversity of products within industry segments. To overcome this shortcoming we used a measure that captures product differences, not industry differences. As in previous research (e.g., Baysinger & Hoskisson, 1989), product diversity was measured by asking respondents about the range of products they have. Specifically using a 7-point Likert-type scale, we asked (a) how similar each product technology was (customized production or not), and (b) how similar the marketing strategy is for each of the firm's product. Factor analysis showed that these items converged on a single factor (Cronbach alpha = 0.90). Finally, we measured international experience by asking about the number of years the firm had been doing business outside the home country.

For our performance analysis, we developed an Over/Under-identification measure to test our hypothesis. In this case we calculated the difference between the actual number of competitors each firm reported identifying and the "objective" or predicted number of competitors calculated from our competitor identification regression analysis (from our control regression Table 2, Model 1). For each firm, we calculated an Over/Under-identification variable by subtracting the number of competitors predicted from the number of rivals each firm actually identified. We also calculated an Over/Under-identification squared variable to test nonlinear effects. Thus, our measure determines if firms over-(under-)identify competitors based on the characteristics of the firm.

Control Variables

In our overall competitor identification regression tests, we controlled for factors that prior research has recognized as influencing competitor identification (Beck et al., 2005; George, 2005). We measured firm size as the total number of full-time employees (Miller & Chen, 1996)

and firm age was measured as the number of years an organization has been in existence (George, 2005; Miller & Chen, 1996). We included three other firm-specific variables research has shown to influence competitor identification; *geographic diversity, product diversity* and *international experience,* using the measures outlined above.

We also included control variables that past research has found to influence managerial ability/willingness to identify competitors. We measured *organizational slack* as a composite scale developed and validated by Miller and Friesen (1982). Organizational slack can impact competitor identification in two opposing ways. First, slack provides firms with unused resources that can be devoted to competitor identification, increasing the ability to identify rivals. Alternatively, organizational slack can provide a buffer insulating the firm from environmental pressures and challenges, reducing the willingness to identify rivals. Using a 7-point scale, we asked CEOs whether (a) capital, (b) skilled labour, (c) material supplies, and (d) managerial talent are abundant within the firm. Factor analysis confirmed that all four questions loaded on one factor (Cronbach alpha= 0.90).

There is growing evidence that managerial time horizons impact firm strategy (Marginson & Mcaulay, 2008) and the ability/willingness to identify competitors (McMullen et al., 2009). Managers with shorter horizons often focus exclusively on competitors that have an immediate impact on firm performance, ignoring those which might have a longer-term impact (McMullen et al., 2009). To control for this potential effect, we used the two direct measures of *short-termism* developed in Marginson and Mcaulay (2008). The first measure evaluates the extent to which CEOs place emphasis on actions that improve long-term performance rather than actions that will produce good short-term budget performance. The second measure estimates the extent to which CEOs expect their subordinates to focus on actions that will produce good

short-term budget performance rather than actions that improve long-term performance. Each measure used a 5-point Likert type scale that ranged from 1-strongly agree to 5-strongly disagree. The first item was reverse scored and then the two measures were summed to yield a composite measure of short-termism. Factor analysis confirmed that these two questions load on a single factor (Cronbach's alpha = 0.96), a high value of which is associated with a short-term outlook and a low value denoting a long-term perspective.

Finally, Clark and Montgomery (1999) theorized and found that job tenure had an impact on the number of competitors identified. One perspective suggests that with tenure managers develop processes and systems for competitor identification which should lead to more comprehensive identification. An alternative view is that as tenure increases managers suffer from inertia and hence identify fewer rivals. Based on this we included *CEO tenure* measured as the number of years the CEO had been in their post.

When analyzing differences between domestic and foreign competitor identification, we controlled for *firm size, firm age, organizational slack, short-termism, environmental uncertainty,* and *CEO tenure* using the measures outlined above.

In our performance regressions, we controlled for the primary variables found to be significantly related to firm performance. We used similar measures as above and included controls for *firm size, firm age, geographic diversity, product diversity,* and *international experience*. We also included controls for *organizational slack, short-termism,* and *environmental uncertainty,* which can influence performance (George, 2005; McMullen et al., 2009). Finally, we included controls for managerial characteristics that have been found to be related to performance (Carpenter, Sanders, & Gregersen, 2011; Geletkanycz, & Boyd, 2011; Simsek, 2007) such as CEO age, education level, tenure, industry experience, and international

experience.

Common Methods and Response Bias

In an effort to minimize common methods bias, we used the two-phase data collection process suggested by Podsakoff, MacKenzie, Lee, and Podsakoff (2003). The independent and control variables were obtained during the first phase and the dependent variable information was collected six months later in the second phase. In phase one, 155 firms responded to the survey within one month of the initial mailing. After two further rounds of mailings, face-to face interviews, email invitations, and telephone contacts, an additional 77 responses were obtained. In phase two surveys were mailed only to the 232 firms that had provided a response to phase one. With some additional prompting all firms provided responses to the second phase survey. Overall, we obtained usable responses from 232 firms, achieving a response rate of 64.9 percent.

To assess potential nonresponse bias, we followed Armstrong and Overton's (1977) suggestions and prepared t-tests between early respondents (those who responded after the first request) and late respondents (those who replied after follow-up requests). These tests revealed no significant nonresponse bias in our data (firm age t= -.851, p=.395; geographic diversity t= .055, p=.956; international experience t= -1.346, p=.180; product diversity t= -.562, p=.574; performance t= -1.598, p=.111; competitors identified t= -.738, p=.461).

Results

We began our analysis by looking at the correlations between variables. Table 1 displays the means, standard deviations, and correlations for all variables included in the statistical

analyses. All variables are normally distributed with an acceptable range of skewness and kurtosis (-1.96~+1.96); for that reason, no transformations are required (Tabachnick & Fidell, 2001). Yet, there appear to be several high correlations that might be indicative of collinearity issues. To check this, we examined the variable inflation factors (VIF) in our regression tests. Although the maximum VIF score was 2.90, noticeably below the suggested cut-off of 10 (De Vaus, 2002), we eliminated *firm age* and *CEO industry experience* from our analyses because of potential collinearity concerns.

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Insert Tables 1 and 2 about here

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To test *H1,* we used hierarchical regression analysis and used OLS to test *H2a*, *2b,* and *2c* (Table 2). In Model 1 we included firm-specific variables that past studies have indicated influence competitor identification while in Model 2 we added three additional variables past studies have found to influence managerial ability/willingness to identify competitors. Both models are significant. The variables geographical diversity ($p<0.001$), international experience ($p<0.001$), and product diversity ($p<0.001$) are positive and statistically significantly related to competitor identification. We also found that organizational slack ($p<.001$) and CEO tenure ($p<.10$) are significantly related to competitor identification.

In Model 3, we tested *H1* and added our independent variable perceived *environmental uncertainty*. This model is also significant ($p < 0.001$) and the improvement in explanatory power over Model 2 is significant ($p < 0.05$), which suggests that this model does a better job of explaining competitor identification compared with the previous models that included only controls and past factors effecting the willingness/ability to identify competitors. Our

independent variable perceived *environmental uncertainty* is significant ($p < 0.05$) and negatively associated with competitor identification. This indicates that firms operating in environments perceived as more certain tend to identify a greater number of competitors, lending support to *H1*.

To test the idea that competitor identification might vary between domestic and foreign rivals, we prepared two additional models (Table 2 models 4 and 5). In Model 4 we look at the factors impacting the identification of domestic competitors. We found that geographical diversity ($p<.05$), product diversity ($p<.05$), organizational slack ($p<.01$), and CEO tenure ($p<.05$) are significantly associated with domestic competitor identification. These findings lend support to *H2a* and *2b*, which propose respectively that firms with higher product diversity and those with greater geographic diversity will identify more domestic competitors.

Model 5 looks at foreign competitor identification and shows that international experience ($p<.05$), product diversity ($p<.05$), and environmental uncertainty ($p<.10$) are related to foreign competitor identification. These results provide support for *H2a* and *2c*, which suggest respectively that firms having greater product diversity and international experience will identify more foreign rivals. Yet, we found no support for *H2*; geographic diversity does not appear to be related to foreign competitor identification.

As an additional test, we used STATA and the SUREG command (seemingly unrelated regressions) to compare the domestic and foreign competitor models (Table 2, Models 6 and 7). We found that the regression coefficients, standard errors, and R^2 in the SUREG models are similar to those in the standard regression models. This analysis also indicates that our independent variables and several controls are significantly different between the domestic and foreign competitor identification regression tests, providing additional support for our results.

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Insert Table 3 about here

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Our final hypothesis suggests that there is an inverted-U shaped relationship between under/over-identifying competitors and firm performance. To test this notion, we also used hierarchical regression analysis. Table 3 Model 1 includes only the control variables. Model 1 is significant ($p < 0.001$) and the control variables geographical diversity ($p<0.05$), international experience ($p<0.05$), product diversity ($p<0.05$), organizational slack ($p<.001$), short-termism ($p<.001$), CEO education ($p<.01$), CEO tenure ($p<.05$), CEO international experience ($p<.05$), and environmental uncertainty ($p<.001$) are all significantly associated with firm performance.

In Model 2 (Table 3), we added the *over/under-identification* variable, which looks at the over (under) recognition of competitors, based on the predicted number of competitors (results of Table 2 Model 1) and the number of competitors reported by each firm. As Model 2 shows, the over/under-identification variable is positive and significantly ($p<.001$) related to firm performance, even when controlling for numerous other factors. In addition, including this variable significantly increases the explained variance in performance ($p < 0.001$) over the control variables model.

Finally, in Model 3 (Table 3), we added the squared value of under/over-identification. This variable is negative and significantly ($p<.001$) related to performance. The increase in explained variance between Model 2 and Model 3 is also significant ($p<.001$), suggesting that Model 3 does a better job of explaining performance compared with Model 2. These results indicate that firms that under-identify and those that over-identify competitors have lower

performance than other firms, providing support for the inverted-U shaped relationship in *H3*.

Discussion

Summary

Scholars have suggested that identifying competitors is a critically important part of firm success (Porter, 1980). Knowledge of one's rivals is necessary for firms to plan and respond successfully (Chen et al., 2007). Yet after decades of research we still know little about the factors that influence competitor identification, especially the impact of environmental uncertainty and why firms differ in identifying domestic and foreign rivals. We theorized and tested the notion that perceived uncertainty in the external environment influences the number of competitors a firm identifies. We also developed and tested the idea that antecedents of competitor identification differ for domestic versus foreign competitor identification, and that competitor identification is related to firm performance, but not as past studies have indicated. Using a sample of Taiwanese firms, we found that perceptions of the external environment are important; firms identify more competitors when they perceive the environment as certain compared to when it is uncertain. Furthermore, our results suggest that different firm and managerial characteristics influence domestic and foreign competitor identification, including uncertainty. Finally, we found an inverted-U shaped relation between competitor identification and firm performance. Our results indicate that firms under-identifying or greatly over-identifying competitors generate lower performance, compared to other firms.

Contribution to Scholarship

Our study makes a number of important contributions to knowledge. First, we contribute to the literature on the antecedents to competitor identification. While a number of firm-specific and managerial-specific factors have been explored in past studies (Clark & Montgomery, 1999; McMullen et al., 2009), no one has looked at the impact of perceptions of the external environment. Environmental turbulence is the "volatility or difficult-to-predict discontinuities in an environment" (Haleblian & Finkelstein, 1993, p. 845) or the "extent to which the environment of an organization is rapidly changing, unstable, and unpredictable" (Singh, 1986, p. 574). As the environment becomes increasingly turbulent, the relationship between actions and outcomes become more difficult to observe and understand (Milliken, 1987). Environmental turbulence is important in competitor identification because the level of turbulence influences managerial perceptions of environmental uncertainty and therefore the degree of scanning the firm is willing to undertake (Boyd & Fulk, 1996; Fredrickson & Mitchell, 1984). Building on previous insights, we theorized and found that firms perceiving high environmental uncertainty tended to identify significantly fewer rivals (especially foreign rivals) than firms perceiving lower environmental uncertainty. These results suggest that the ability and willingness of managers to identify competitors is influenced by their perceptions of the environment, in addition to other firm and managerial characteristics.

Second, we contribute by looking at the identification of domestic and foreign rivals separately. Previous studies have noted that firms might differentiate between major and minor competitors (Clark, 2011; Porac & Thomas, 1990) focusing attention on major rivals while ignoring minor ones. Foreign competitors could be thought of as minor competitors because they do business at the geographic periphery of the business (Day & Schoemaker, 2005). Yet Yu and colleagues (Yu et al., 2015) theorized and found that firms perform the best when they identify

both more domestic and foreign competitors. Our paper builds on this past research to help explain why firms might be good at identifying either domestic or foreign competitors but not both. We found that firms identify more domestic competitors when they have higher geographic and product diversity when there is organizational slack and when the CEO has longer tenure. In contrast, we found that firms identify more foreign rivals when they have more international experience and have high product diversity. Interestingly, we also found that because foreign rivals act at the geographic periphery of the firm, perceived environmental uncertainty had a significant impact on the identification of these competitors, but not on the identification of domestic rivals. Hence, we add to our understanding about the antecedents of competitor identification and help explain why firms might be better at identifying domestic or foreign rivals.

Finally, we make an important contribution by exploring the link between competitor identification and firm performance. The entire basis of competitive advantage and strategy is that a firm needs to understand its competitors (Porter, 1980). This is because knowing who the competitors are increases the opportunities for firms to produce and implement strategies that create an advantage and attract customers (Day & Schoemaker, 2005). Building on the work of Clark (2011), Clark and Montgomery (1996), and Yu et al. (2015) we tested the notion that there is an inverted-U shaped relationship between under/over-identifying competitors and performance. Under-identification can generate blind spots and leave a firm open to rival's actions resulting in poor performance. Over-identification can provide valuable knowledge about processes and technologies that can improve a competitive advantage and performance. However, expending too many firm resources on over-identifying rivals can be costly and the marginal benefit of such actions can quickly disappear, having an adverse impact on performance. Our

results provide strong support for these concepts.

Limitations and Directions for Future Research

Although our results are intriguing, this study suffers from a number of limitations that provide opportunities for future research. First, since our sample only involved a single industry and a single country, our findings may not be generalizable to firms from other countries or in other industries. Future research extending these ideas to other industries and other countries can determine the generalizability of our findings.

Second, we examined one dimension of competitor identification—the number of competitors identified. Future research may wish to consider whether other dimensions of competitor identification also influence performance. For example, past studies underlined the similarity of competitors and the size of competitors as additional criteria for competitor identification (Bergen & Peteraf, 2002; Peteraf & Bergen, 2003). Future research might explore these dimensions to determine how these factors influence firm performance.

Theoretically, competitor identification can be conceptualized as a type of organizational learning or as a set of processes and routines. We approached competitor identification from the process/routine side since we were simply interested in seeing how firm routines and processes lead to over/under-identification of competitors. The alternative learning approach also offers an interesting perspective where a firm's ability to recognize, obtain, internalize, and use competitor information (its absorptive capacity) influences competitor identification and performance (Lane & Lubatkin, 1998). Future research might want to explore competitor identification from this learning perspective to add to our understanding.

We controlled for a number of firm and managerial characteristics found to be related to

competitor identification in past studies. Although we considered international experience, we measured it as only the number of years abroad. Other dimensions of international experience like number of countries or volume of sales might yield additional insights. Competitor identification might also be influenced by CEO attributes not yet explored. Upper echelon theory (Hambrick & Mason, 1984) suggests that certain managerial characteristics like age, education level, industry experience, and international experience can be used as proxies of managerial mental models and used to predict managerial behaviour. As such, future research might want to develop theoretical arguments about how CEO characteristics like these affect the ability or willingness of firms to identify both domestic and foreign rivals.

In addition, although we explored the direct link between competitor identification and performance, we know that simply identifying competitors is not enough. As the competitive dynamic literature suggests (Chen et al., 2007; Yu & Cannella, 2007) firms need to be motivated and have the capabilities to take actions. Other research maintains that the amount and type of information gathered about competitors also influences strategy and performance. We do not have data on these mediating factors (motivation, capabilities or information), but future research could combine these ideas with those outlined above and extend our knowledge.

Even though we explored managerial perceptions of the external environment, we did not look at how actual uncertainty in the external environment affects competitor identification. By focusing on one industry, we controlled for any potential actual external environmental differences. However, future research might look at a cross section of industries and measure external uncertainty to determine how actual changes in the external environment affect competitor identification efforts.

Finally, our data were based on CEO self-reports at two points in time. Separating data

collection for independent and dependent variables allowed us to minimize the impact of common methods bias, but still provides only cross-sectional data. Our data show that there is an inverted U-shaped relationship between competitor identification and firm performance. However, we were unable to assess whether this relationship remains constant over time. Companies are increasingly searching for new ways to achieve a competitive advantage. Research gathering more longitudinal data on competitor identification and firm performance could help us unravel some of these issues related to strategy and performance. In addition, complementing self-reports with secondary financial data may also extend the validity of our findings.

Conclusion

In sum, although competitor identification forms the basis of strategy, there are still many gaps in our knowledge. In this paper, we help clarify a number of important issues. We advance competitor identification research by exploring the impact of a previously neglected but critically important dimension—perceptions of external environmental uncertainty. We found that uncertainty influences the willingness/ability to identify competitors, especially foreign competitors. In addition, building on the work of Yu et al. (2015), we found that different firm and managerial factors drive the identification of domestic versus foreign competitors. These issues are important because competitor identification is related to firm performance, and under or over-identification of competitors can lead to lower firm performance. Hence, we move one step closer to understanding the significance of competitor identification, the factors that influence identification, and how competitor identification is related to firm performance. Although more work is needed, this paper helps us gain a greater understanding of the strategy

process by advancing our knowledge about the part played by competitor identification.

JEL Classification: L11, L2, F6

References

Andreff, W., & Szymański, S. (2006). *Handbook on the Economics of Sport*. Cheltenham, Edward Elgar Publishing, UK.

Armstrong, J.S., & Overton, T.S. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research, 14*(3), 396-402.

Barkema, H.G., & Vermeulen, F. (1998). International expansion through start up or acquisition: A learning perspective. *Academy of Management Journal*, *41*(1), 7-26.

Baum, J. R., & Wally, S. (2003). Strategic decision speed and firm performance. *Strategic Management Journal*, *24*(11), 1107-1129.

Baysinger, B.D., & Hoskisson, R.E. (1989). Diversification strategy and R&D intensity in large multiproduct firms. *Academy of Management Journal*, *32*, 310-332.

Beck, T., Demirguc-Kunt, A., & Maksimovic, V. (2005). Financial and legal constraints to growth: Does firm size matter? *The Journal of Finance*, *60*, 137-177.

Bergh, D.D. (1998). Product-market uncertainty, portfolio restructuring, and performance: An information-processing and resource-based view. *Journal of Management*, *24*(2), 135-155.

Bergen, M.E., & Peteraf, M.A. (2002). Competitor identification and competitor analysis: A broad-based managerial approach. *Managerial and Decision Economics, 23*, 157-169.

Boyd, B.K., & Fulk, J. (1996). Executive scanning and perceived uncertainty: A multidimensional model. *Journal of Management*, *22*, 1-21.

Carpenter, M.A., Sanders, G. & Gregersen, H. B. (2011). Bundling human capital with organizational context: impact of international assignment experience on multinational

firm performance and CEO pay. *Academy of Management Journal, 44*(3), 493-511.

Chen, M.J. (1996). Competitor analysis and interfirm rivalry: Toward a theoretical integration. *Academy of Management Review, 21*(1), 100-134.

Chen, M.J., Su, K.H., & Tsai, W. (2007). Competitive tension: the awareness-motivation-capability perspective. *Academy of Management Journal, 50*(1), 101-118.

Clark, B.H. (2011). Managerial identification of competitors: Accuracy and performance consequences. *Journal of Strategic Marketing, 19*(3), 209-227.

Clark, B.H., & Montgomery, D.B. (1996). Perceiving competitive reactions: The value of accuracy (and paranoia). *Marketing Letters, 7*(2), 115-129.

Clark, B.H., & Montgomery, D.B. (1999). Managerial identification of competitors. *Journal of Marketing, 63,* 67-83.

Daft, R., Sormunen, J., & Parks, D. (1988). Chief executive scanning, environmental characteristics and company performance: An empirical study. *Strategic Management Journal, 9*(2), 123–139.

Day, G.S. & Schoemaker, P.J.H. (2005). Scanning the periphery. *Harvard Business Review,* 83(11), 135-148.

Dean, J.W., & Sharfman, M.P. (1993). Procedural rationality in the strategic decision-making process. *Journal of Management Studies, 30,* 587-610.

De Vaus, D. (2002). *Surveys in social research, 5th edition*. London: Routledge.

Dutta, B.K., & King, W.R. (1980). Metagame analysis of competitive strategy. *Strategic Management Journal, 1,* 357-370.

Eriksson, K., Johanson, J., Majkgard, A. & Sharma, D.D. (1997). Experiential knowledge and cost in the internationalization process. *Journal of International Business Studies*, 28(2), 337-360.

Ferrier, W.J. (2001). Navigating the competitive landscape: The drivers and consequences of competitive aggressiveness. *Academy of Management Journal, 44*(4), 858-877.

Fredrickson, J.W., & Mitchell, T.R. (1984). Strategic decision processes: Comprehensiveness and performance in an industry with an uncertain environment. *Academy of Management Journal, 27*(2), 27-45.

Geletkanycz, M.A. & Boyd, B.K. (2011). CEO outside directorships and firm performance: a reconciliation of agency and embeddedness views. *Academy of Management Journal, 54*(2), 335-352.

George, G. (2005). Slack resources and the performance of privately held firms. *Academy of Management Journal*, *48*, 661-676.

Haleblian, J., & Finkelstein, S. (1993). Top management team size, CEO dominance, and firm performance: The moderating roles of environmental turbulence and discretion. *Academy of Management Journal, 36*(4), 844-863.

Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review, 9*(2), 193-206.

Hsu, C.H. (2007). The development of sports industry in Taiwan. *National Sport Quarterly, 36*(1), 41-48.

Huang, C.P. (2010). *TSMA Yearbook 2010*. Taiwan Sporting Goods Manufacturers Association: Taipei, Taiwan.

Jayachandran, S., Gimeno, J., & Varadarajan, P. R. (1999). The theory of multimarket competition: A synthesis and implications for marketing strategy. *Journal of Marketing*, 49-66.

Knight, G. (2000). Entrepreneurship and marketing strategy: The SME under globalization. *Journal of International Marketing, 8*(2), 12-32.

Kumar, N, Stern, L.W., & Anderson, J.C. (1993). Conducting interorganizational research using key informants. *Academy of Management Journal, 36*(6), 1633-1651.

Lane, P. J., & Lubatkin, M. (1998). Relative absorptive capacity and interorganizational learning. *Strategic Management Journal, 19*(5), 461-477.

Lisboa, A., Skarmeas, D., & Lages, C. (2011). Innovative capabilities: Their drivers and effects on current and future performance. *Journal of Business Research, 64*(11), 1157-1161.

Marginson, D., & Mcaulay, L. (2008). Exploring the debate on short-termism: A theoretical and empirical analysis. *Strategic Management Journal, 29*(3), 273-292.

McMullen, J.S., Shepherd, D.A., & Patzelt, H. (2009). Managerial (in)attention to competitive threats. *Journal of Management Studies, 46*(2), 157-181.

Miller, D., & Chen, M.J. (1996). The simplicity of competitive repertoires: An empirical analysis. *Strategic Management Journal, 17*(6), 419-439.

Miller, D., Droge, C., & Vickery, S. (1997). Celebrating the "Essential:" The impact of performance on the functional favoritism of CEOs in two contexts. *Journal of Management, 23* (2), 147-168.

Miller, D., & Friesen, P.H. (1982). Innovation in conservative and entrepreneurial firms: Two models of strategic momentum. *Strategic Management Journal, 3*, 1-25.

Milliken, F. J. (1987). Three types of perceived uncertainty about the environment: State, effect,

and response uncertainty. *Academy of Management Review*, *12*(1), 133-143.

Montgomery, D. B., Moore, M. C., & Urbany, J. E. (2005). Reasoning about competitive reactions: Evidence from executives. *Marketing Science, 24*(1), 138-149.

Peteraf, M.A., & Bergen, M.E. (2003). Scanning dynamic competitive landscapes: A market-based and resource-based framework. *Strategic Management Journal, 24*, 1027-1041.

Podsakoff, P.M., MacKenzie, S.B., Lee J-Y., & Podsakoff, N.P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*, 879-903.

Porac, J.F., & Thomas, H. (1990). Taxonomic mental models in competitor definition. *Academy of Management Review, 15*(2), 224-240.

Porter, M.E. (1980). *Competitive Strategy*. New York: Free Press.

Powell, T., & Dent-Micallef, A. (1997). Information technology as competitive advantage: The role of human, business and technology resources. *Strategic Management Journal, 18*(5), 375–405.

Priem, R.L., Rasheed, A.M.A., & Kotulic, A.G. (1995). Rationality in strategic decision processes, environmental dynamism and firm performance. *Journal of Management, 21*(5), 913-929.

Sawyerr, O. O. (1993). Environmental uncertainty and environmental scanning activities of Nigerian manufacturing executives: A comparative analysis. *Strategic Management Journal, 14*(4), 287-299.

Shervani, T.A., Frazier, G., & Challagalla, G. (2007). The moderating influence of firm market power on the transaction cost economics model: An empirical test in a forward channel

integration context. *Strategic Management Journal, 28*(6), 635-652.

Simsek, Z. (2007). CEO tenure and organizational performance: an intervening model. *Strategic Management Journal, 28*(6), 653-662.

Singh, J. V. (1986). Performance, slack, and risk taking in organizational decision making. *Academy of Management Journal, 29*(3), 562-585.

Tabachnick, B.G., & Fidell, L.S. (2001). *Using Multivariate Statistics*. Boston: Allyn and Bacon.

Thomas, H., Pollock, T., & Gorman, P. (1999). Global strategic analyses: Frameworks and approaches. *Academy of Management Executive, 13*(1), 70-82.

Tsai, W., Su, K. H., & Chen, M. J. (2011). Seeing through the eyes of a rival: Competitor acumen based on rival-centric perceptions. *Academy of Management Journal, 54*(4), 761-778.

Wadhwa, A. & Kotha, S. (2006). Knowledge creation through external venturing: Evidence from the telecommunications equipment manufacturing industry. *Academy of Management Journal*, 49(4), 819-835.

Wiersema, M. F., & Bowen, H. P. (2008). Corporate diversification: The impact of foreign competition, industry globalization, and product diversification. *Strategic Management Journal*, *29*(2), 115-132.

Yu, T., & Cannella, A.A. (2007). Rivalry between multinational enterprises: An event history approach. *Academy of Management Journal, 50*(3), 663-684.

Yu, C.L., Wang, F., & Brouthers, K.D. (2015). Domestic and foreign competitor identification and firm performance. *European Journal of International Management*, 9(4), 463-483.

Zahra, S.A. (2005). A theory of international new ventures: A decade of research. *Journal of International Business Studies*, 36, 20-28.

Zajac, E.J., & Bazerman, M.H. (1991). Blind spots in industry and competitor analysis: Implications of interfirm (mis)perception to strategic decisions. *Academy of Management Review*, *16*, 37

Table 1
Descriptive Statistics and Correlation Matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Mean	3.20	7.47	2.41	5.06	2.55	22.16	56.91	0.75	15.96	6.46	4.96	2.84	48.98	3.37	13.08	1.85	18.00
S.D.	0.94	3.30	2.32	2.43	1.04	10.76	77.21	1.05	9.65	4.34	1.21	1.31	8.16	0.98	7.18	2.70	8.02
N	227	232	232	232	230	232	232	232	232	226	230	232	232	232	232	231	232
1.Performance	1																
2.Competitors Identified	.64**	1															
3.Foreign Competitors Identified	.37**	.68**	1														
4.Domestic Competitors Identified	.51**	.71**	-.04	1													
5.Environmental Uncertainty	-.59**	-.39**	-.30**	-.25**	1												
6.Firm Age	.28**	.35**	.27**	.21**	-.48**	1											
7.Firm Size	.25**	.24**	.21**	.12	-.26**	.29**	1										
8.Geographical Diversity	.36**	.34**	.22**	.25**	-.26**	.29**	.30**	1									
9.International Experience	.39**	.39**	.31**	.23**	-.52**	.78**	.32**	.27**	1								
10.Product Diversity	24**	.30**	.22**	.20*	-.09	.10	.22**	.16*	.16*	1							
11. Organizational Slack	.68**.	.42**	.25**.	.33**	-.52**	.37**	.19**	.25**	.45**	.09	1						
12.Short-Termism	.33**	.14*	.06	.13	-.13*	-.02	-.01	.03	.01	.10	.21**	1					
13.CEO Age	.23**	.17*	.06	.16*	-.29**	.21**	.19**	.09	.27**	-.01	.20**	-.06	1				
14. CEO Education	.24**	.38**	.27**	.26**	-.11	.01	.07	.14*	.03	.16*	.08	.13	-.27**	1			
15. CEO Tenure	.37**	.30**	.17**	.24**	-.40**	.49**	.21**	.13*	.49**	.08	.32**	-.04	.62**	-.13*	1		
16.CEO International Experience	.39**	.47**	.28**	.37**	-.29**	.24**	.31**	.43**	.32**	.17*	.19**	.05	.16*	.25**	.29**	1	
17. CEO Industry Experience	.39**	.30**	.15*	.27**	-.47**	.48**	.27**	.17**	.52**	.08	.38**	-.04	.72**	-.22**	.81**	.28**	1

*p<0.05; **<0.01

Table 2
Hierarchical Regression of Competitor Identification

Variables	Model 1 All Competitor	Model 2 All Competitors	Model 3 All Competitors	Model 4 Domestic Competitors	Model 5 Foreign Competitors	Model 6 SUREG Results Domestic	Model 7 SUREG Results Foreign
Intercept	4.258***	0.884	2.979*	1.735	1.244	1.735	1.244
	(0.448)	(0.855)	(1.392)	(1.125)	(1.100)	(1.102)	(1.078)
Control Variables							
Firm size	0.001	0.001	0.000	-0.001	0.002	-0.001	0.002
	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
Organizational Slack		0.672***	0.559**	0.434**	0.125	0.434**	0.125
		(0.179)	(0.187)	(0.151)	(0.148)	(0.148)	(0.145)
Short-termism		0.119	0.091	0.075	0.016	0.075	0.016
		(0.146)	(0.146)	(0.118)	(0.115)	(0.116)	(0.113)
CEO Tenure		0.026†	0.021	0.025*	-0.003	0.025*	-0.003
		(0.015)	(0.015)	(0.012)	(0.012)	(0.012)	(0.011)
Independent Variables							
Environmental Uncertainty			-0.432*	-0.118	-0.314†	-0.118	-0.314†
			(0.227)	(0.184)	(0.180)	(0.180)	(0.176)
Geographical diversity	0.683***	0.581**	0.548**	0.345*	0.202	0.345*	0.202
	(0.195)	(0.189)	(0.189)	(0.152)	(0.149)	(0.149)	(0.146)
International experience	0.102***	0.049*	0.037	-0.002	0.039*	-0.002	0.039*
	(0.022)	(0.024)	(0.025)	(0.020)	(0.020)	(0.020)	(0.019)
Product Diversity	0.156***	0.154***	0.157***	0.075*	0.082*	0.075*	0.082*
	(0.046)	(0.044)	(0.044)	(0.036)	(0.035)	(0.035)	(0.034)
Adjusted R^2	0.246	0.306	0.315	0.156	0.141	0.186	0.172
F	19.070***	15.016***	13.750***	6.111***	5.561***	2.08	
Change in F		7.378***	3.614*			10.576**	

Notes: †p<.10; *p< .05; **p< .01; ***p< .001 (two-tailed tests. Standard errors in parentheses, N=222

Table 3
Hierarchical Regression of Firm Performance

Variables	Model 1	Model 2	Model 3
Intercept	-12.066***	-9.605***	-7.631***
	(2.058)	(1.981)	(1.972)
Control Variables			
Firm size	0.000	0.000	0.001
	(0.002)	(0.002)	(0.002)
Geographical diversity	0.375*	0.528**	0.659***
	(0.188)	(0.179)	(0.175)
International experience	-0.052*	-0.026	-0.006
	(0.024)	(0.023)	(0.023)
Product diversity	0.109*	0.125**	0.144***
	(0.042)	(0.040)	(0.039)
Organizational Slack	1.721***	1.504***	1.372***
	(0.178)	(0.172)	(0.169)
Short-termism	0.497***	0.489***	0.467***
	(0.138)	(0.130)	(0.125)
CEO age	0.026	0.013	-0.006
	(0.029)	(0.027)	(0.026)
CEO education	0.626**	0.259	0.100
	(0.199)	(0.199)	(0.196)
CEO tenure	0.038*	0.033*	0.031
	(0.018)	(0.016)	(0.016)
CEO international experience	0.185*	0.091	0.048
	(0.077)	(0.075)	(0.073)
Environmental uncertainty	-1.050***	-0.978***	-0.940***
	(0.218)	(0.205)	(0.198)
Independent Variables			
Over/Under-identification		0.368***	0.636***
		(0.067)	(0.093)
Over/Under-ID Squared			-0.041***
			(0.010)
Adjusted R^2	0.659	0.701	0.722
F	39.733***	43.954***	44.874***
Change in F		29.918***	16.528***

Notes: *p< .05; **p< .01; ***p< .001 (two-tailed tests) Standard errors in parentheses

[i] Respondents indicated that 67 questionnaires were completed by someone with the title President (or Chairman) and 129 questionnaires were completed by the General Manager (or Managing Director). The remaining 36 questionnaires were completed by a Manager. In Taiwan these terms (President, General Manager, Managing Director and Manager) are used as titles for the person who runs the company (in all but the largest firms). Because of this, we believe that the respondents are those managers responsible for firm strategy and can all be termed as the 'CEO' of their firm for our purposes.